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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,147	03/17/2004	Sethu K. Madhavan	GP-304612 (2760/165)	3953

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EXAMINER	
BOCURE, TESFALDET	

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,147	MADHAVAN ET AL.	
	Examiner	Art Unit	
	TESFALDET BOCURE	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *am. of 10/12/2011 & Request for recons*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-25,27,29-39 and 41* is/are rejected.

7)☐ Claim(s) *26,28,40,42* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 20-41 are pending in the application and this office action is in response to the amendment to the claims received on 10/12/2010 and the request for reconsideration received on 3/17/2011.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed "frequency shift Keying (FSK)" in claims 23, 37 and 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

It should be noted that figures 3 (prior art) and fig. 4 (according to the present invention) show Frequency Modulation not Frequency Shift Keying (FSK) as claimed in claims 23, 37 and 23.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 24 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. the claimed "---within the range of about 25 milliseconds to about 1000 milliseconds" in claims 24 and 38 is vague and indefinite as the claimed limitation" about" does not limit the bound of the claimed invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 20-25,27, 29-39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perston (US patent number 7,206,305, of a record) in view of McDonald et al., McDonald hereinafter (US patent number 6,122,271, of a record).

Regarding claim 20, 29 and 34 Preston discloses a method of communicating data over a voice channel of a wireless communication system (abstract), comprising the steps of: generating (fig. 4) a periodic data signal (fig. 6, i.e. fl & f2 are each periodic) modulated with data (fig. 4, ref. 30; fig. 6, data bits "1" and "0") and periods of silence (col. 6, lines 24-30); and sending (fig. 2, ref. 19) the periodic data signal (fig. 2, ref. 26) as a voice communication through a vocoder (fig. 2, ref. 18) and over a voice channel (fig. 2, ref.34) of a wireless communication system. Preston discloses a method of transmitting digital data using a cellular phone (fig. 2, ref. 14) commonly utilized for the transmission of audio voice signals. Preston explicitly discloses that "a problem arises when voice communication equipment, such as the vocoder, are used for transmitting digital data as a non-voice signal." (col. 1, lines 55-63). Specifically, the vocoder may recognize the data as noise and remove it (col. 1, lines 55-63). Therefore, Preston discloses careful encoding of the data by "controlling the amplitudes, time periods, and patterns of the synthesized frequencies used to represent the binary bit values." (col. 5, lines 23-33). Particularly, Preston discloses, as broadly as claimed, the inclusion of periods of non-data sacrificial bit transmission to prevent the vocoder from attenuating the transmission of wanted data (col. 6, lines 15-31).

Preston differs from the claimed invention in that Preston does not label or characterize the "sacrificial bits" contained in the IBS packet 70 as "period of silence".

However, McDonald from the same field of endeavor as the instant application and that of Perston teaches wireless communication of a digital voice signal using digital modulation, such as QAM, FSK and PSK (see col. 4, lines 1-16) over the existing analog voice channel (originally dedicated for transmission of an analog signal) having a silent period (see element 28 in fig. 1 and col. 3, lines 29-68) during which no significant information is present in the primary information signal, claimed unmodulated.

Therefore, it would have been obvious to one of an ordinary skill in the art to use the silent period of McDonald in the system of Perston to save power of the system so that it will not turn ON during the silent period so that the silent period not to recognized as background noise (see col. 4, lines 16-31).

Regarding claim 21,35 Preston discloses the limitations of claim 20 and 34 as applied above. Further, Preston discloses that the wireless communication system is a cellular network (fig.1).

Regarding claim 22, 36 Preston discloses the limitations of claim 20 and 34 as applied above. Further, Preston discloses that the network transmission standard is CDMA (col. 4, line 54).

Regarding claim 23,37, Preston discloses the limitations of claim 20 and 34 as applied above. Further, Preston discloses generating the periodic data signal with a data sequence using frequency shift keying (fig. 6; col. 5, lines 45-50).

Regarding claim 24, 38 Preston discloses the limitations of claim 20 and 34 as applied above. Further, Preston discloses that the duration of each of the periods of silence is within the range of about 25 to 1000 milliseconds. Preston discloses that

each bit continues for duration of 10 milliseconds (col. 5, lines 65-66). Furthermore, Preston discloses that the "period of silence" determined by the sacrificial bits is four bits long (fig. 5, "sacrificial bits"). Therefore, the period of silence is 40 milliseconds.

Regarding claim 25, 39 Preston discloses the limitations of claim 20 as applied above. Further, Preston discloses receiving a first periodic data signal (fig. 4, ref. 30) and producing a second periodic data signal (fig. 4, ref. 69) by modulating the first periodic data signal with the periods of silence determined by the packet formatter (fig. 4, ref. 62) as applied in claim 20 above.

Regarding claim 29,33 Preston discloses a method of communicating data over a voice channel of a wireless communication system (abstract), wherein both data and voice are transmitted at the same time (col. 1, lines 60-65) to a call center (fig. 1, ref. 36). Furthermore, Preston discloses the remaining limitations of the claim as applied to claims 20 and 21 above.

Regarding claim 30, Preston discloses the limitations of claim 29 as applied above. Further, Preston discloses the remaining limitations of the claim as applied to claims 20 and 21 above.

Regarding claim 31, Preston in view of McDonald discloses the limitations of claim 30 as applied above. Preston does not disclose that step (a) is performed prior to step (b). Rather, Preston discloses that adding the periodic time intervals is performed before frequency shift keying. However, the reversal of the steps is not a patentably distinct step and is within the abilities of one having ordinary skill in the art. The reversal of the steps is not suggested as providing a benefit or solving a particular

problem. Furthermore, one skilled in the art would have expected the invention to work equally well in either mode of operation.

Regarding claim 32, Preston discloses the limitations of claim 29 as applied above. Further, Preston discloses that the network transmission standard is CDMA (col. 4, line 54).

Regarding claims 27 and 41, Perston and McDonald are silent that the sacrificial bits and the silent period respectively are variable. However such a variable sacrificial bits or variable silent period is an obvious design choice, where the sacrificial bits or silent period can be variable according to the amount of information to be transmitted within the available frequency band and the time period in which the system to be on ON or OFF state. Therefore, it would have been obvious to one of an ordinary skill in the art to vary the sacrificial bits or the silent period or any auxiliary data at the time the invention was made.

Response to Amendment

8. Applicant's arguments with respect to claims 20-41 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

9. Claims 26,28,40 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TESFALDET BOCURE whose telephone number is (571)272-3015. The examiner can normally be reached on Mon-Thur (8:00a-5:30p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tesfaldet Bocure/
Primary Examiner, Art Unit 2611

/T. B./
Primary Examiner, Art Unit 2611